Listing of the Claims showing Changes

1. (Currently Amended) A solder preform comprising:

a) a solder matrix comprised of a solder alloy forming the solder preform;

b) microparticles embedded in the solder alloy; ~~and~~

c) the microparticles being constructed so as to be capable of arranging during a solder bonding process so as to provide a substantially uniform separation between opposing soldered surfaces; and

d) wherein the microparticles comprise polyhedrons.

2. (Canceled).

3. (Previously Amended) The solder preform of Claim 1 wherein the microparticles are shaped so as to inhibit stacking while self arranging during a solder bonding process.

4. (Previously Amended) The solder preform of Claim 1 comprising an amount of microparticles with respect to an amount of the solder alloy so as to inhibit stacking of the microparticles during a solder bonding process.

5. (Original) The solder preform of Claim 4 wherein the microparticles are shaped so as to inhibit stacking while self arranging during a solder bonding process.

6. (Currently Amended) The solder preform of Claim 5

wherein the microparticles comprise ~~microspheres~~one of: (a) a pyramidal shape or (b) a tetrahedral shape.

7. (Original) The solder preform of Claim 6 wherein the microparticles comprise at least one of: (a) glass; (b) plastic; (c) elastomer; (d) metal; (e) semiconductor; (f) material capable of conducting electric current; or (g) dielectric material.

8. (Previously Amended) The solder preform of Claim 1 wherein the microparticles comprise at least one of: (a) glass; (b) plastic; (c) elastomer; (d) metal; (e) semiconductor; (f) material capable of conducting electric current; or (g) dielectric material.

9. (Original) The solder preform of Claim 8 wherein the microparticles comprise generally regular particles.

10. (Currently Amended) The solder preform of Claim 9 wherein the microparticles comprise ~~microspheres~~at least one of: (a) a pyramidal structure or (b) a tetrahedral structure.

11. (Currently Amended) The solder preform of Claim 1 wherein the microparticles comprise ~~as~~ at least one of: (a) ~~spheres~~ a pyramidal structure, or (b) ~~polyhedrons;~~a tetrahedral structure ~~(c) crystalline particles, (d) powders, or (e) nanostructures~~.

12. (Previously Amended) The solder preform of Claim 1 wherein the microparticles have a coefficient of expansion such that a combined coefficient of expansion of the microparticles

and the solder alloy is in a range between the opposing soldered surfaces.

13. (Previously Amended) The solder preform of Claim 1 wherein the microparticles have a coefficient of expansion lower than a coefficient of expansion of the solder alloy.

14. (Previously Amended) The solder preform of Claim 1 wherein the microparticles have a coefficient of expansion higher than a coefficient of expansion of the solder alloy.

15. (Previously Amended) The solder preform of Claim 1 wherein the microparticles have a coefficient of expansion substantially the same as a coefficient of expansion of the solder alloy.

16. (Previously Amended) The solder preform of Claim 1 wherein the microparticles are distributed substantially uniformly through the solder alloy.

17. (Previously Amended) The solder preform of Claim 1 wherein the microparticles are embedded near an exterior surface of the solder alloy.

18. (Previously Amended) The solder preform of Claim 1 wherein the microparticles are embedded in an exterior surface of the solder alloy.

19. (Currently Amended) A solder preform comprising:

a) a solder matrix forming the solder preform, the

solder matrix comprising a solid solder alloy; and

b) a plurality of ~~microparticles~~stack resistant crystal structure spacers having a substantially similar ~~diameter~~height embedded within the solid solder alloy.

20. (Currently Amended) The solder preform of Claim 19 wherein the plurality of ~~microparticles~~stack resistant crystal structure spacers comprise~~s microspheres comprising~~ at least one of: (a) tetrahedrons~~glass~~; or (b) pyramids~~plastic; (c) elastomer; (d) metal; (e) semiconductor; (f) material capable of conducting electric current; or (g) dielectric material~~.

21. (Currently Amended) The solder preform of Claim ~~20~~19 wherein the plurality of ~~microparticles~~stack resistant crystal structure spacers have~~s~~ a coefficient of expansion such that a combined coefficient of expansion of the plurality of ~~microparticles~~stack resistant crystal structure spacers and the solid solder alloy is in a range between the coefficients of expansion of the opposing soldered surfaces.

22-44 (Canceled)

45. (Currently Amended) A solder preform comprising:

a) a plurality of ~~microparticles~~nanostructure spacers embedded within a ~~non-paste~~ solder alloy~~matrix, the non-paste matrix forming the solder preform~~; and

b) the ~~microparticles~~nanostructure spacers being constructed so as to be capable of arranging during a solder bonding process so at to provide substantially uniform separation between opposing soldered surfaces.

46. (Currently Amended) The solder preform of Claim 45 wherein the ~~microparticles~~nanostructure spacers are shaped so as to inhibit stacking while self arranging during a solder bonding process.

47. (Currently Amended) The solder preform of Claim 45 comprising an amount of ~~microparticles~~nanostructure spacers with respect to an amount of the non-paste solder matrix so as to inhibit stacking of the microparticles during a solder bonding process.

48. (Currently Amended) The solder preform of Claim 47 wherein the ~~microparticles~~nanostructure spacers are shaped so as to inhibit stacking while self arranging during a solder bonding process.

49. (Canceled).

50. (Currently Amended) The solder preform of Claim ~~49~~48 wherein the ~~microparticles~~nanostructure spacers comprise at least one of: (a) glass; (b) plastic; (c) elastomer; (d) metal; (e) semiconductor; (f) material capable of conducting electric current; or (g) dielectric material.

51. (Currently Amended) The solder preform of Claim 45 wherein the ~~microparticles~~nanostructure spacers comprise at least one of: (a) glass; (b) plastic; (c) elastomer; (d) metal; (e) semiconductor; (f) material capable of conducting electric current; or (g) dielectric material.

52. (Currently Amended) The solder preform of Claim 51 wherein the ~~microparticles~~nanostructure spacer comprise generally regular particles.

53. (Canceled)

54. (Currently Amended) The solder preform of Claim 45 wherein the ~~microparticles~~nanostructure spacers comprise ~~as at least one of: (a) spheres; (b)~~ polyhedrons~~; or (c)~~b) ~~crystalline particles, (d) powders, or (e) nanostructures~~.

55. (Currently Amended) The solder preform of Claim ~~54~~45 wherein the ~~microparticles~~nanostructure spacers comprise ~~at least one of: (a) polyhedrons, or (b)~~ crystalline particles.

56. (Currently Amended) The solder preform of Claim 45 wherein the ~~microparticles~~nanostructure spacers have a coefficient of expansion such that a combined coefficient of expansion of the ~~microparticles~~nanostructure spacers and the ~~non-paste~~ solder alloy~~matrix~~ is in a range between the opposing soldered surfaces.

57. (Currently Amended) The solder preform of Claim 45 wherein the ~~microparticles~~nanostructure spacers have a coefficient of expansion lower than a coefficient of expansion of the ~~non-paste~~ solder alloy~~matrix~~.

58. (Currently Amended) The solder preform of Claim 45 wherein the ~~microparticles~~nanostructure spacers have a coefficient of expansion higher than a coefficient of expansion

of the ~~non-paste~~ solder alloy~~matrix~~.

59. (Currently Amended) The solder preform of Claim 45 wherein the ~~microparticles~~nanostructure spacers have a coefficient of expansion substantially the same as a coefficient of expansion of the ~~non-paste~~ solder alloy~~matrix~~.

60. (Currently Amended) The solder preform of Claim 45 wherein the ~~microparticles~~nanostructure spacers are distributed substantially uniformly through the ~~non-paste~~ solder alloy~~matrix~~.

61. (Currently Amended) The solder preform of Claim 45 wherein the ~~microparticles~~nanostructure spacers are embedded near an exterior surface of the ~~non-paste~~ solder alloy~~matrix~~.

62. (Currently Amended) The solder preform of Claim 45 wherein the ~~microparticles~~nanostructure spacers are embedded in an exterior surface of the ~~non-paste~~ solder alloy~~matrix~~.

63. (Currently Amended) A solder preform comprising:

c) a non-paste solder matrix forming the solder preform; and

d) a plurality of ~~microspheres~~stack resistant nanostructure spacers having a substantially similar diameter embedded within the non-paste solder matrix.

64. (Currently Amended) The solder preform of Claim 63 wherein the plurality of ~~microspheres~~stack resistant nanostructure spacers comprises ~~microspheres~~stack resistant nanostructure spacers comprising at least one of: (a) ~~glass; (b)~~

~~plastic; (c) elastomer; (d) metal; (e) semiconductor; (f)~~ material capable of conducting electric current; or (~~g~~b) dielectric material.

65. (Currently Amended) The solder preform of Claim 64 wherein the plurality of ~~microspheres~~stack resistant nanostructure spacers has a coefficient of expansion such that a combined coefficient of expansion of the plurality of ~~microspheres~~stack resistant nanostructure spacers and the solder alloy is in a range between the coefficients of expansion of the opposing soldered surfaces.

66. (Currently Amended) The solder preform of Claim 11 wherein the ~~microspheres~~stack resistant nanostructure spacers comprise at least one of : (a) polyhedrons; or (b) crystalline particles.